

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1     1.     (Currently amended) A wireless audio transmission and reception system  
2           comprising:

3           a pulse width amplifier to receive an ~~analog~~audio signal and modulate  
4           a pulse width of a digital timing signal with said ~~analog~~audio  
5           signal, such that the pulse width is proportional to an amplitude  
6           of said ~~analog~~audio signal to provide a pulse width modulated  
7           signal;

8           an up-converter in communication with the pulse width amplifier to  
9           receive the pulse width modulated signal and convert said pulse  
10          width modulated signal to a modulated carrier signal;

11          a transmitter in communication with the modulated carrier signal to  
12          transfer the modulated carrier signal wirelessly;

13          a receiver to receive the modulated carrier signal;

14 a down-converter in communication with the receiver to receive the  
15 modulated carrier signal and extract the pulse width modulated  
16 signal from the modulated carrier signal; and

17 an integrator in communication with the down-converter to receive the  
18 extracted pulse width modulated signal to remove a timing  
19 signal from said extracted pulse width modulated signal and to  
20 restore the analog audio signal.

1 2. (Currently amended) The system of claim 1 further comprising power  
2 amplifier in communication with the integrator to receive the analog audio  
3 signal and amplify said analog audio signal and transfer said amplified  
4 analog audio signal to a transducer.

1 3. (Currently amended) The system of claim 1 wherein the pulse width  
2 amplifier comprises

3 a comparator having a first input to receive the analog audio signal and  
4 a second input to receive the timing signal, said timing signal  
5 having a triangular form such that, as said comparator  
6 compares the analog audio signal and the timing signal, the  
7 pulse width modulated signal is provided to an output of said  
8 comparator.

1 4. (Original) The system of claim 1 wherein the up-converter comprises a  
2 modulation apparatus to combine a carrier frequency with the pulse width  
3 modulated signal to form the modulated carrier signal.

1 5. (Original) The system of claim 4 wherein the modulation apparatus is  
2 selected from a group of modulation apparatus consisting of frequency  
3 shift keying modulation apparatus, amplitude shift keying modulation  
4 apparatus, phase shift keying modulation apparatus, quadrature phase  
5 shift keying modulation apparatus, time domain multiple access  
6 modulation apparatus, and code domain multiple access modulation  
7 apparatus.

1 6. (Original) The system of claim 1 wherein the down-converter comprises a  
2 demodulation apparatus to extract the pulse width modulated signal from  
3 the modulated carrier signal.

1 7. (Original) The system of claim 6 wherein the demodulation apparatus is  
2 selected from a group of demodulation apparatus consisting of frequency  
3 shift demodulation apparatus, amplitude shift keying demodulation  
4 apparatus, phase shift keying demodulation apparatus, quadrature phase  
5 shift keying demodulation apparatus, time domain multiple access  
6 demodulation apparatus, and code domain multiple access demodulation  
7 apparatus.

1 8. (Currently amended) The system of claim 1 wherein the integrator is a low  
2 pass filter having a cut off frequency suitable to pass the analog-audio  
3 signal and remove the timing signal.

1 9. (Original) The system of claim 1 wherein the carrier frequency is at least  
2 900 MHz.

1 10. (Currently amended) A wireless audio transmitter system comprising"  
2 a pulse width amplifier to receive an analog-audio signal and modulate  
3 a pulse width of a digital timing signal with said analog-audio  
4 signal, such that the pulse width is proportional to an amplitude  
5 of said analog-audio signal to provide a pulse width modulated  
6 signal;

7 an up-converter in communication with the pulse width amplifier to  
8 receive the pulse width modulated signal and convert said pulse  
9 width modulated signal to a modulated carrier signal; and

10 a transmitter in communication with the modulated carrier signal to  
11 transfer the modulated carrier signal wirelessly;

1 11. (Currently amended) The transmitter system of claim 10 wherein the pulse  
2 width amplifier comprises

3 a comparator having a first input to receive the analog-audio signal and  
4 a second input to receive the timing signal, said timing signal

5                   having a triangular form such that, as said comparator  
6                   compares the ~~analog audio~~ signal and the timing signal, the  
7                   pulse width modulated signal is provided to an output of said  
8                   comparator.

1    12.   (Original) The transmitter system of claim 10 wherein the up-converter  
2           comprises a modulation apparatus to combine a carrier frequency with the  
3           pulse width modulated signal to form the modulated carrier signal.

1    13.   (Original) The transmitter system of claim 12 wherein the modulation  
2           apparatus is selected from a group of modulation apparatus consisting of  
3           frequency shift keying modulation apparatus, amplitude shift keying  
4           modulation apparatus, phase shift keying modulation apparatus,  
5           quadrature phase shift keying modulation apparatus, time domain multiple  
6           access modulation apparatus, and code domain multiple access  
7           modulation apparatus.

8    14.   The transmitter system of claim 10 wherein the carrier frequency is at  
9           least 900 MHz.

1    15.   (Currently amended) A wireless audio receiver system comprising"  
2           a receiver to receive the ~~modulated carrier signal~~ a modulated carrier  
3           signal;

4 a down-converter in communication with the receiver to receive the  
5 modulated carrier signal and extract ~~the pulse width modulated~~  
6 ~~signal~~ a pulse width modulated signal from the modulated  
7 carrier signal; and

8 an integrator in communication with the down-converter to receive the  
9 extracted pulse width modulated signal to remove a timing  
10 signal from said extracted pulse width modulated signal and to  
11 ~~restore the analog signal~~ an audio signal.

1 16. (Original) The receiver system of claim 15 wherein the down-converter  
2 comprises a demodulation apparatus to extract the pulse width modulated  
3 signal from the modulated carrier signal.

1 17. (Original) The receiver system of claim 16 wherein the demodulation  
2 apparatus is selected from a group of demodulation apparatus consisting  
3 of frequency shift demodulation apparatus, amplitude shift keying  
4 demodulation apparatus, phase shift keying demodulation apparatus,  
5 quadrature phase shift keying demodulation apparatus, time domain  
6 multiple access demodulation apparatus, and code domain multiple  
7 access demodulation apparatus.

1 18. (Currently amended) The receiver system of claim 15 wherein the  
2 integrator is a low pass filter having a cut off frequency suitable to pass  
3 the ~~analog~~ audio signal and remove the timing signal.

1 19. (Currently amended) The receiver system of claim 15 wherein the carrier  
2 frequency is at least 900 MHz.

1 20. (Currently amended) A method for wireless transmission of an analog  
2 audio signal comprising the steps of:

3 acquiring the ~~analog~~audio signal;

4 comparing said ~~analog~~audio signal with a timing signal;

5 from said comparing, forming a pulse width modulated signal;

6 up-converting the pulse width modulated signal to a modulated carrier  
7 signal;

8 transmitting said modulated carrier signal;

9 receiving said modulated carrier signal;

10 down-converting said modulated carrier signal to restore the pulse  
11 width modulated signal; and

12 integrating the restored pulse width modulated signal to remove a  
13 timing signal from said restored pulse width modulated signal to  
14 extract said ~~analog~~audio signal.

1 21. (Currently amended) The method of claim 20 further comprising the steps  
2 of:

3                   amplifying the restored ~~analog~~audio signal

4                   transferring the amplified ~~analog~~audio signal to a transducer.

1    22.   (Currently amended) The method of claim 20 wherein the comparing the  
2           ~~analog~~audio signal to the timing signal and forming the pulse width  
3           modulated signal comprises the step of:

4                   forming the timing signal to have a triangular waveform;

5                   comparing the amplitude of the ~~analog~~audio signal to the amplitude of  
6                   the triangular waveform;

7                   if the amplitude of the ~~analog~~audio signal is greater than the amplitude  
8                   of the timing signal, setting the pulse width modulated signal to  
9                   a first logic level; and

10                  if the amplitude of the ~~analog~~audio signal is less than the amplitude of  
11                  the timing signal, setting the pulse width modulated signal to a  
12                  second logic level.

1    23.   (Original) The method of claim 20 wherein the up converting the pulse  
2           width modulating signal to the modulated carrier signal comprises the  
3           steps of

4                   combining a carrier frequency with the pulse width modulated signal to  
5                   form the modulated carrier signal.



1    24.    The method of claim 23 wherein the combining of the carrier frequency  
2           with the pulse width modulated signal is a modulating of the carrier  
3           frequency by the pulse width modulated signals, said modulating being  
4           selected from a group of modulating steps consisting of frequency shift  
5           keying modulating, amplitude shift keying modulating, phase shift keying  
6           modulating, quadrature phase shift keying modulating, time domain  
7           multiple access modulating, and code domain multiple access modulating.

1    25.    (Original) The method of claim 20 wherein the down-converting said  
2           modulated carrier signal to restore the pulse width modulated signal  
3           comprises the step of:

4           combining a local oscillator signal with the modulated carrier signal to  
5           restore the pulse width modulated signal.

1    26.    (Original) The method of claim 23 wherein combining of local oscillator  
2           signal with the carrier frequency is a demodulating of the carrier frequency  
3           to extract the pulse width modulated signals, said demodulating being  
4           selected from a group of demodulating steps consisting of frequency shift  
5           keying demodulating, amplitude shift keying demodulating, phase shift  
6           keying demodulating, quadrature phase shift keying demodulating, time  
7           domain multiple access demodulating, and code domain multiple access  
8           demodulating.

- 1    27.    (Original) The method of claim 20 wherein the carrier signal is at least 900  
2           MHz.